IN THE CLAIMS:

Please make the following amendments, as shown in the claims set forth below:

1. (currently amended) A **diplexer/switch-based** means for using an external satellite modem with a standard Inmarsat-B mobile earth station to provide transmission and reception at **approximately 32 kbps of throughput per 25 kHz of bandwidth.** ~~**higher data rates than possible with the standard Inmarsat-B mobile earth station.**~~

2. (currently amended) A means for enabling a standard Inmarsat-B mobile earth station control unit (MCU) and an external satellite modem with an L-band interface to transmit using a single standard Inmarsat-B RF terminal on a mutually exclusive basis by the use of a diplexing means and by switches controlled by an embedded computer on a **on a DSP board interfaced with the external satellite modem and the MCU**, whereby the transmit source feeding the RF terminal is switched between the MCU and the external satellite modem by the embedded computer's setting of ~~**the**~~ two switches, and wherein the MCU and external satellite modem can receive from the RF terminal regardless of which transmit source is connected to the RF terminal.

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3. (original) The apparatus of claim 1 or 2 in which higher data rates than are available with a standard MCU are obtained by the use of Viterbi FEC concatenated with Reed-Solomon error correction in the external satellite modem.

4. (original) The apparatus of claim 1 or 2 in which higher data rates than are available with a standard MCU are obtained by the use of Turbo FEC in the external satellite modem.

5. (original) The apparatus of claim 1 or 2 in which the MCU and RF terminal are Saturn B models.

6. (currently amended) The apparatus of claim 1 or 2 in which the ~~**second**~~ **external** satellite modem is an EFData 300L.

7. (original) The apparatus of claim 2 in which the embedded computer comprises a digital signal processor and non-volatile random access memory.

8. (original) The apparatus of claim 1 further comprising a second identical apparatus of claim 1, a means for coupling the second apparatus with the first apparatus, a means for determining which apparatus of the coupled pair has better received signal quality at any given time, and a means for permitting only the apparatus with better signal quality to transmit at such time.

9. (original) The apparatus of claim 2 further comprising a second identical apparatus of claim 2, a means for coupling the embedded computer of the second apparatus with embedded computer of the first apparatus, and in which the embedded computers use a means for determining which apparatus of the pair has better received signal quality at any given time, and select the apparatus with better signal quality to transmit at such time.

10. (original) An earth station for Inmarsat-B service, comprising:

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a standard Inmarsat-B mobile earth station control unit (MCU) having a first satellite modem, a microcontroller executing an mobile earth station (MES) management program, a first EIA-232 port in communication with the MES management program, a diplexed L-band transmit/receive interface, and a software application programming interface (API) in the management program accessible through the EIA-232 interface, which API enables external control of a high power amplifier in an RF terminal by use of the API;

a standard Inmarsat-B RF terminal with L-band transmit/receive interface and a high power amplifier (HPA) that the MCU can control using management and control (M&C) messages multiplexed over an RF path connecting the MCU with the RF terminal;

a second satellite modem capable of providing higher data rate operation than the first satellite modem and equipped with L-band transmit and receive interfaces, a keypad and display, a microcontroller running a modem management program that controls the operation of the second satellite modem, keypad, and display, a baseband I/O port, a remote control EIA-232 port in communication with the modem management program; and

a switching assembly associated with the second satellite modem and that contains a plurality of EIA-232 ports provided by a UART in communication with a switching management program running on a computer embedded in the switching assembly, an entry switch and an exit switch controlled by the embedded computer, a first M&C path between a first port on the UART and the EIA-232 port on the MCU, a second M&C path between a second port on the UART and the remote control EIA-232 port on the second satellite modem, two L-band diplexers, an entry connector connected to the diplexed L-band transmit/receive interface of the first satellite modem, an exit connector connected to the L-band transmit/receive interface of the RF terminal, NVRAM associated with the embedded computer as a data storage device, which switching management program interoperates with the MES management program through data exchange over the first M&C path and with the modem management program through data exchange on the second M&C path, provides a local user interface through the keypad and display on the second satellite modem, and based on data received and stored in NVRAM the switching management program controls the entry and exit switches to switch between:

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a first path ("Bypass Path") on the switching assembly from the entry connector through entry and exit switches to the exit connector that passes signals from DC power to L-band with negligible attenuation, and

a second RF path ("ICE path") on the switching assembly from the entry connector through the entry switch that connects with a first diplexer that terminates an entering transmitter L-band signal in a dummy load, and substitutes for the entering transmitter L-band signal the L-band transmitter output of the second satellite modem by connecting the L-band transmitter output of the second satellite modem with the transmit port of the second diplexer, which diplexes the second satellite modem transmit output into an RF path that passes through the exit switch to the exit connector, wherein the receive L-band path from the exit connector passes through the exit switch to the diplexed port of the second diplexer, out of the receive port of the second diplexer to the receive port of the first diplexer, out of the diplexed port of the first diplexer through the entry switch to the entry connector, and wherein the receive path is amplified and filtered so that it is virtually lossless compared with the receive signal strength at the entry connector when the first path is selected by the embedded computer, and wherein a directional coupler inserted in the

RF path between the entry connector and the entry switch to provide a branch receive path that is filtered, amplified, and connected to the receive interface of the second satellite modem, and wherein DC power and an M&C frequency band pass through a first low pass filter connected to the entry connectors and a second low pass filter connected to the exit connector, thereby providing a DC power path and M&C path through the switching assembly when the second RF path is selected by the switching management program;

wherein the switching management program through communications with the modem management program and based on a configuration stored in NVRAM configures the second satellite modem to transmit and receive at data rates higher and lower than the data rate supported by the first satellite modem, controls the HPA power level through communications with the MES management program to set the HPA at the power level required by the configured data rate, and sets the entry and exit switches to insert the ICE Path so that the second satellite modem transmits and receives over the RF terminal.

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11. (original) The earth station of claim 10 in which higher data rates are obtained by the use of Viterbi FEC concatenated with Reed-Solomon error correction in the second satellite modem.

12. (original) The earth station of claim 10 in which higher data rates are obtained by the use of Turbo FEC in the second satellite modem.

13. (original) The earth station of claim 10 in which the MCU and RF terminal are Saturn B models.

14. (original) The earth station of claim 10 in which the second satellite modem is an EFData 300L.

15. (original) The earth station of claim 10 in which the first satellite modem and the second satellite modem have RF interfaces at intermediate frequencies in the range from 50 MHz to 300 MHz rather than at L-band, up/downconverters are inserted in the RF path between the diplexed port of the second diplexer and the exit switch on the diplexer assembly, and the switching management program controls the operating intermediate frequencies of the second satellite modem during periods in which the RF path on the switching assembly is the ICE Path.

16. (original) The earth station of claim 10 in which the branch receive path between the directional coupler and receive port of the second diplexer passes through a second coupler, which provides a second branch receive path that is filtered and amplified to provide a receive monitor port accessible at a connector on the switching assembly.

17. (original) The earth station of claim 10 further comprising a second identical earth station of claim 10, a means for coupling the embedded computer of the second earth station with embedded computer of the first earth station, and in which the embedded computers use a means for determining which earth station of the pair has better received signal quality at any given time, and select the earth station with better signal quality to transmit at such time.

18. (new) An Inmarsat-B mobile earth station equipped with a single modem that can switch between leased mode operation of approximately 32 kbps of throughput per 25 kHz of bandwidth and Inmarsat-B standard services.

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19. (new) A retrofit of an Inmarsat-B mobile earth station that, in addition to providing Inmarsat-B standard services using a standard modem, can use a second satellite modem to provide leased mode operation of approximately 32 kbps of throughput per 25 kHz of bandwidth.

20. (new) The apparatus of claim 18 or 19, wherein a network management system associated with the apparatus includes a standalone management and control system.

21. (new) The apparatus of claim 18 or 19, wherein a local user is denied control of operating parameters that enable leased mode operation of approximately 32 kbps of throughput per 25 kHz of bandwidth.

22. (new) The apparatus of claim 18 or 19, wherein a high power amplifier of the mobile earth station is driven with a constant envelope waveform during leased mode operation of approximately 32 kbps of throughput per 25 kHz of bandwidth.

23. (new) A plurality of the apparatus of claim 18 or 19, wherein the plurality of mobile earth stations during leased mode operation share a given leased bandwidth, and at least one of the mobile earth stations has asymmetric transmit and receive data rates and occupied bandwidths.

24. (new) A plurality of the apparatus of claim 18 or 19, wherein the plurality of mobile earth stations during leased mode operation share a given leased bandwidth, and the transmit data rate and occupied bandwidth of at least one mobile earth station is approximately 32 kbps of throughput per 25 kHz of bandwidth.